

ABSTRACT

A member is obtained by forming a Y_2O_3 black spray coating on a surface of a substrate or covering the surface of the substrate with a Y_2O_3 black spray coating through an undercoat or a middle layer. This coating has good heat characteristics and is good in the resistance to damaging through a high hardness. The Y_2O_3 black spray coating is produced by subjecting white Y_2O_3 powdery material to a plasma spraying in an inert gas atmosphere containing substantially no oxygen or by forming a Y_2O_3 white spray coating and then irradiating an electron beam or a laser beam to this coating to melt at least a part of the white coating under heating to thereby smoothen denseness and blacken the surface of the coating.